

PAT-NO: JP410214772A
DOCUMENT-IDENTIFIER: JP 10214772 A
TITLE: SUBSTRATE HEAT-TREATING DEVICE

PUBN-DATE: August 11, 1998

INVENTOR-INFORMATION:

NAME COUNTRY
MATSUSHITA, MASANAO

ASSIGNEE-INFORMATION:

NAME COUNTRY
DAINIPPON SCREEN MFG CO LTD N/A

APPL-NO: JP09016541
APPL-DATE: January 30, 1997

INT-CL (IPC): H01L021/027 , G03F007/38

ABSTRACT:

PROBLEM TO BE SOLVED: To provide a substrate heat-treating device which can heat-treat substrates with high intrasurface temperature uniformity and small differences among individual substrates in a short time.

SOLUTION: A substrate heat-treating device is provided with an upper hot plate 20 above a substrate W, a lower hot plate 50 below the substrate W, and a heat buffering section TB composed of a heat exchanger plate 30 and an air layer AL between the upper hot plate 20 and the substrate W. In the heat buffering section TB, the radiant heat from the lower hot plate 50 reaches the heat exchanger plate 30, but, since the plate 30 is blocked by the air layer AL, the radiant heat hardly affects the upper hot plate 20. On the contrary, most of the radiant heat from the upper hot plate 20 is transferred to the heat exchanger plate 30 and radiated upon the substrate W with a uniform intrasurface temperature distribution from the plate 30 having high heat conductivity. Therefore, the substrate W can be heat-treated in a short time by heating the substrate W from both top and bottom sides and, since the temperature distribution is

stabilized, the uniformity of intrasurface temperature of the substrate W is not disturbed much by a convection current, etc.

COPYRIGHT: (C)1998,JPO